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Satisfaction with creativity: a study of organisational characteristics and individual motivations

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SATISFACTION WITH CREATIVITY:

A STUDY OF ORGANISATIONAL CHARACTERISTICS AND INDIVIDUAL MOTIVATIONS♦

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Abstract

In answering the question of what influences satisfaction for creativity in the workplace, this work takes into account the extent to which the organization supports human aspiration to creativity. The empirical model uses survey data encompassing over 4,000 workers in Italian social enterprises. Results show that satisfaction for creativity is supported, at organizational level, by teamwork-oriented action, including the quality of processes, relations and on-the job autonomy. At the individual level, satisfaction for creativity is enhanced by the strength of intrinsic and socially oriented motivations and by competence. The analysis of interaction terms shows that teamwork and workers' intrinsic motivations are complementary in enhancing the perception of creativity-enhancing work settings, while a high degree of required competences appears to substitute good relationships with superiors.

Keywords: creativity, job satisfaction, organizational processes, motivations, teamwork, autonomy, interpersonal relations.

JEL classification: J24, J28, J54

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"My feeling is that the concept of creativeness and the concept of healthy, self-actualizing, fully-human person seem to be coming closer and closer together, and may perhaps turn out to be the same thing" (Maslow, 1963, p. 4)

ITRODUCTION

This work looks at creativity from the perspective offered by needs theory in psychology and Dewey's pragmatism in philosophy. The first supports the view that creativity can be one way to satisfy the human need for accomplishment and self-determination, therefore contributing to the psychological well-being of individuals more generally (Deci & Ryan 1990; Maslow, 1943). The second contextualizes creativity within the evolving inter-subjective experience of human beings, where intelligence and learning play a crucial role in renewing established ways of acting (Dewey, 1917). Specifically this contribution identifies the role of context in allowing the expression of creativity, whether such creativity is the outcome of innate talent or whether it needs to be nurtured and learned to different extents. Unlike previous work, rather than studying what is the intensity of creativity measured in terms of creative outputs, typically associated with productivity and innovation, we focus on the degree to which the individual need for expressing creativity is satisfied.

Individual satisfaction has been argued to reflect the perceived distance between individual aspirations and achievement (Inglehart, 1990). In answering the question of *what influences satisfaction for creativity in the workplace*, this work takes into account the extent to which the organization supports human aspiration to creativity, rather than the extent to which individual creativity can support organizational goals. Consistently, the analysis accounts for individual aspirations and experience as reflected in intrinsic motivations, contextual organizational elements regarding governance processes and work practices, as well as socio-economic quality of the environment where individuals live and work. When applied to work contexts, this

approach allows predicting the effects of specific individual, contextual and organizational characteristics on satisfaction for creativity, which is expected to contribute to individual accomplishment.

Reflecting on Dewey (1917) and Joas (1996), we regard individual creativity as the ability to identify and problemitize a situation in new ways, transforming subjective understanding into new action, in any field, therefore bringing something into existence using intelligence and imagination amongst other factors. We can then associate specific aspects of satisfaction with the capability of expanding and developing the subjective understanding of situations, following initial intuitions and imagination. Such capability, consistently with the work of Amabile (1997), needs, in the great majority of cases, to be built, learned and encouraged. Note that the meaning of bringing something into existence does not necessarily overlap with the idea of industrial or business innovation. Rather, it is the expression of the genuine willingness to create which can be expressed by *any* individual, in *any* role (Sacchetti, Sacchetti & Sugden, 2009).

With individual satisfaction for creativity as a measure, our emphasis falls on the individual's own evaluation of his or her experience. Experience evolves historically as a product of the interaction between the individual and the environment, and in this sense is unique for each individual (Dewey, 1917). The discovery of wishes, aspirations and attitudes is therefore bound to an evolving path (Sacchetti & Sugden, 2009). Likewise, expectations regarding the use of creativity can be assumed to be affected by prior experience. Need theory in psychology (Maslow, 1943) has informed economic analysis in these respects, placing emphasis on the decreasing marginal utility attached to the satisfaction of particular needs which are, over time but sometimes also in parallel, surmounted by new needs and aspirations, to which individuals attach greater value at the margin.

The need to express one's own creativity, here, is considered as a possible way, depending on the person's desires and experience, of achieving self-actualization: the highest (and less "prepotent") need in Maslow's theory. It follows that the same organizational features impacting on satisfaction for creativity should also have an impact on satisfaction for personal fulfillment, if the individual perceives creativeness as a need.

We rely on a national Survey on Italian Social Cooperatives (SISC hereafter) undertaken in Italy in 2006. Data include information about 4134 salaried workers in 320 Italian social cooperatives: mutual benefit organizations with a not-for-profit objective whose main activity is

devoted to social areas of concern.[1] This original data set provides a specific application of the study of creativity-related satisfaction in the not-for-profit sector, where employees' task-oriented motivation is hypothesized to be substantive. Data were collected using a structured questionnaire (SISC, 2007).

The paper is structured as follows: Section 2 introduces and articulates the hypothesis and model. Section 3 introduces the dataset, while Section 4 presents the statistical and econometric analysis. Section 5 is dedicated to the discussion of results and conclusions follow in Section 6.

HYPOTHESIS AND MODEL: SATISFACTION AS A MEASUREMENT CRITERION

The principal criterion measure in this work is individual "satisfaction for the variety and creativity of the job". This reflects one specific item of SISC administered to social cooperatives workers. This is not a direct objective measure of creative outputs and productivity (Amabile, Conti, Coon, Lazenby, & Herron, 1996), or yet again a measure of cognitive styles, as used in Kirton (1976). Rather, we use satisfaction as an indicator of a subjective self-assessment measuring the match between a desired object, i.e. the aspiration to express one's own creativity, and its realization in the workplace. In this way, the nature of the job and its match with the evolving desires and attitudes of individual employees is evaluated on the employee's terms, and related to his/her own sense of accomplishment in the workplace, rather than on a particular action or a project which may have been identified as creative by managers, experts, or by the researcher. Bridging needs theory with the work of American pragmatism, satisfaction with creativity is regarded as the manifestation of the individual's sense of accomplishment when being in a position to interpret situations and act out of pre-defined ways, to convey views and intuitions, signal values and aspirations to the realization of evolving ends.[2]

At a substantive level, we expect creativity-related satisfaction to be higher a) when individuals can engage in organizational processes that support both the autonomous and collaborative

[1] Social cooperatives, in Italy, are part of the wider legal category of social enterprises. These can be identified as cooperatives, entrepreneurial non-profit organizations and not-for-profit investor owned companies. In particular, social cooperatives have been regulated by law no. 381, which was passed by the Italian Parliament in 1991, while social enterprises have been regulated by law no. 118/2005, and by the degree no. 155/2006.

[2] This view is grounded in Dewey's theory of value in philosophy (Dewey, 1917) and in the analysis provided by Joas (1996) on the creative nature of human action.

actions of individuals, b) when individuals choose their occupation on the ground of intrinsic motivations c) when local development conditions provide a context where other fundamental human needs are satisfied. According to self-determination theory (Deci & Rayan, 1990), we also expect the domain of satisfaction for creativity in the work environment being largely coextensive with the domains of satisfaction with the autonomous organization of work and with self-fulfillment on the job (Table 1).

Insert Table 1 about here

Organizational Measures

Within organizations, the creative process has been hypothesized to occur, in particular, where decision-making is based on participation, collaborative work, communication and trust (Amabile, 1997).[3] Intrinsically motivated individuals have been argued to produce more creative outputs, or to feel more creative when carrying out a particular task (Amabile, 1996; Lakhani & Wolf 2005). It follows that choice processes and loci assume analytic relevance.

Methodologically, therefore, this work includes measures of organizational spaces where individuals can use their cognitive abilities and imagination to problematize situations and find new ways of acting. Consistently with previous research (Amabile, 1997), the model identifies five creativity-related organizational elements: involvement in decision-making and in the definition of objectives; procedural and interactional fairness, teamwork; autonomy, learning, work pressure (Table 2). We then relate each of those to satisfaction with creativity, autonomy, fulfillment, as well as with overall job satisfaction. More specifically, our focus on organizational processes and individual actions concerns the following measures:

Teamwork. Teamwork can be associated with specific projects, with varying contents and degrees of innovativeness (Amabile et al. 1996). Working in teams has been argued to facilitate interaction between individuals with different attitudes (e.g. the "innovator" vs. the "adaptor", Kirton, 1984) facilitating the combination of complementary abilities, such as intuitions with the

[3] Beyond intrinsic motivations, a mix of intrinsically and extrinsically relevant incentives have been argued to support creative outputs, when the organizations is explicit and include detailed reference to creativity amongst the objectives of employees activities and performance (Eisenberger & Shanock, 2003). Our data does not however provide information to include these aspects.

skills for their realization. Because of the importance that the identification of individuals with other team members has for the development of collective work,[4] this instrument measures managerial support, diffused feelings of trust and respect, cooperation, knowledge sharing as distinctive features which can favor use of creativity and sense of accomplishment.

***Autonomy*.** implies that the individual can use creativity to problematize situations and find appropriate ways of acting. This means that s/he not only can select routines which are relevant to the solution of particular problems, or appropriate to habitual circumstances. The autonomous creative individual is also, and especially, capable to see new situations and create new ways of acting. We use subjective measures of the degree of autonomy and self-determination perceived by individual workers when carrying out their job. In particular, one refers to autonomy in day-to-day job tasks and in problem solving, the other is related to the introduction of innovative ideas in the organization of work or delivery of services. In line with previous work (Deci & Ryan, 2000), we expect autonomy to be positively related to individual satisfaction and sense of accomplishment in general. We expect that satisfaction for the creative nature of the job, in particular, is determined by autonomy in innovating as for the creation of new processes and, to a lesser extent, to problem solving in day-by-day operations.

***Inclusion*.** Where people are encouraged to articulate their views and communicate them, inter-subjective interpretations of situations become a creative act and is expected to increase individual sense of accomplishment, not least because it gives voice to intuitions and ideas which can then be reflected into further action (Joas, 1996; Habermas, 1992). Organizations can give voice to their employees not only through formal governance and distribution of property rights, but also by favoring a culture of communication and involvement in critical discussions as or with strategic decision makers. These features have been argued to foster reciprocity, trust (Ostrom, 2010) and individual motivation (Deci & Ryan 1990). Consistently, the model includes self-assessed perception of involvement in choices as well as in the definition of organizational values and objectives.

***Procedural and interactional fairness*.** On a formal level, fairness defines the quality of organizational processes and can be considered as the perception of the equitability of procedures, transparency and impartiality of treatment. Complementary, at a relational level, perceived fairness is defined by the quality of inter-tier relations. Good relationships with the

[4] Teamwork has been defined as a function of how much individuals identify with others and perceive the group as a coherent entity (Turner & Oakes 1986; Lembke & Wilson, 1998).

management may be related, for example, with the quality of leadership, measured in terms of the ability to provide clear and shared objectives, fair treatment, openness to discussion, advice, listening, and recognition of quality outcomes (Tyler & Blader, 2000). Both procedural and relational fairness may legitimize individual effort and can be considered as a basic dimension sustaining individual motivation and enabling intuition and imagination to flourish.

***Learning*.** Competences are essential in enabling individuals to follow their intuitions and are associated with learning. This measure encompasses the extent to which training and other forms of personal development (such as learning arising from interaction with colleagues) exist in the organizational culture. Satisfaction for creativity may be effected also by individual levels of education, besides organizational commitment. Employees with higher levels of education may be better positioned to integrate their intuitions in practice and, therefore, increase satisfaction for creativity. The model includes the educational attainment of each individual worker as a control (Table 5).[5]

***Workload pressure*.** Creativity has been argued to emerge out of compression (Dewey, 1934). In the work environment, however, pressure beyond a certain threshold, has been argued to represent an impediment to creativity (Amabile et al., 1996).

Hypothesis 1a. Organizational processes informed by inclusion, fairness, and autonomy enhance workers' sense of accomplishment for creativity in the workplace.

Hypothesis 1b. The domain of creativity shows substantial overlapping with the domain of other more general dimensions of non-material satisfaction, namely autonomy and self-fulfillment.

Insert Table 2 about here

Individual and contextual elements

***Intrinsic motivations*.** Ex-ante motivations provide a measure of intrinsic-extrinsic orientation prior to entering the organization (Table 3). These controls assess differences in creativity-related aspects of satisfaction which are not conducible to specific characteristics of the

[5] In these respects, it is worth noting that wages, in social cooperatives, are in general lower than in the public sector. However, the average level of education however has been shown to be higher in social cooperatives than in other organizational forms in the same sector (Borzaga & Depedri, 2005).

workplace. By including workers' ex-ante values and motivations as covariates we control for these possibilities in three ways: a) by checking for self-selection based on ex-ante consistency of individual and organizational values; b) by focusing on intrinsic attitudes towards work, social and personal; c) by checking whether the initial choice of organization is grounded on extrinsic motivations as related to salary or contingent circumstances.

Participatory and socially oriented organizations, such as social cooperatives, are likely to attract workers who value pro-social intrinsic motivations. If this is the case, results can be affected by personal characteristics that are not influenced by specific organizational processes, as workers may be fulfilled in their job because they carry strong social motivational drivers before joining the organization. Consequently, the impact of procedural organizational characteristics would be overestimated. Likewise, individuals with intrinsic social motivations may be more active in innovating and actively shaping their job, therefore recognizing higher accomplishment with respect to creativity.

Hypothesis 2. Workers' intrinsic personal and socially oriented motivations positively impact on accomplishment for creativity in the workplace.

Insert Table 3 about here

Formal governance. The SISC survey comprises employees working in Italian social cooperative, an organizational category that is best interpreted in terms of socially oriented entrepreneurial form, or social enterprises. Social cooperatives, contrary to other typologies of Italian cooperatives, pursue a social mission. Their legal status as not-for-profit, social enterprises supports the idea that they value other-regarding preferences and intrinsic motivations over and above the formal involvement of workers as members of the organization. The prevailing social mission of the organization and its size, besides involvement and other specifically designed aspects of the organization, generally define the work environment and may impact on satisfaction for psychological needs, including satisfaction for creativity.[6]

[6] In particular, Italian social cooperatives have a not-for-profit objective and are of two different types: Type A and Type B. Type A social cooperatives deliver social services, while Type B social cooperatives have been conceived by law to foster the employability of disadvantaged workers, such as people with disabilities, single parents, youngsters, people with addiction problems, former detainees. Most Type B social cooperatives work in traditional industrial sectors, but their workforce must include at least 30% of

Most social cooperatives are indeed worker or multi-stakeholder cooperatives where paid workers represent a substantial part of the membership base.[7] Formal governance is rooted in democratic rules like the "one member, one vote" rule (Borzaga & Tortia, 2010). Accordingly, we distinguish between member and non-member workers, who represent three fourth of the total workforce (Table 4). We further differentiate between active members and non-active members, and consider the percentage of worker-members in each organization. In these respects, cooperatives are likely to represent a privileged organizational setting for comparing the differential impact of formal and informal aspects of involvement. Besides substantive organizational and individual characteristics, the model tests the following:

Hypothesis 3. Formal membership rights have a positive impact on individual satisfaction with creativity.

Insert Table 4 about here

Socio-economic and contextual controls. Demographic controls and contractual features. The model assesses whether socio-demographic or contractual characteristics of respondents, rather than organizational features, impact on satisfaction for creativity. Amongst these, socio-demographic variables include age, education, and gender. The measure also addresses the role of salary levels and other economic incentives. Satisfaction for creativity can be directly related to the nature of the occupation and degree of specialization of the employee (Table 5).

Insert Table 5 about here

Macro contextual controls. The model adds a number of location and contextual controls, including socio-economic development measures. These controls complement the contextual analysis of satisfaction, as they address aspects that may impact on individual desires, against which reality is assessed, and a sense of satisfaction or dissatisfaction is experienced (Bruni, 2008). A higher degree of surrounding socio-economic development may impact on the

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disadvantaged individuals. About 80% of the paid workforce in the SISC database work in Type A social cooperatives.

[7] Many social cooperative also enjoy the contribution of volunteer workers that are often part of the membership base and sometimes in control of the organization. The database we use encloses only paid workers since the position of volunteers is considered qualitatively heterogeneous relative to the position of paid workers, and their contribution is too difficult to measure to be included in this study.

perception of creativity and variety by offering, in principle, more opportunities to develop skills, activities and relationships or, in Sen's words, 'different kinds of alternative lives' (Sen, 2008, p. 23).[88] On the other hand, such an environment could elevate expectations thus moving the boundaries that divide actual levels of accomplishment and individual needs (Stutzer, 2004).

By considering the firm's location, and other contextual variables related to the degree of socio-economic development[9] and to provincial income, the model accounts for diversity in the socioeconomic structure of regions across the country.[10] We use a simplified version of the Stiglitz index of socio-economic development for all the 103 Italian provinces. The original index has been elaborated by the Stiglitz-Sen-Fitoussi Commission (2009). It includes both material aspects of wellbeing (GDP and wealth) and immaterial aspects (measures of societal well-being and of economic, environmental, and social sustainability). This index, besides the territorial dummies, presents a disaggregated snapshot of the degree of societal wellbeing and social capital, against which workers identify their own needs and evaluate accomplishment.

Hypothesis 4. Socio-economic development supports a higher degree of satisfaction with creativity in the workplace.

THE SURVEY

To test the extent to which the perception of an organization's governance impacts on individual satisfaction we use the 2007 SISC[11] data base on social cooperatives, based on the 2006 survey conducted by the Universities of Bergamo, Brescia, Naples, Reggio Calabria, and

[8] As regards limitations, our data set does not address measures of individual cognitive abilities.

[9] IlSole24Ore; accessed July 2010 www.ilsole24ore.it.

[10] As we control for self-selection, other methodological problems, such as endogeneity bias due to reverse causation and omitted variable, can lead to inconsistent estimates of the relevant parameters. However, endogeneity analysis is not within the aims of this work. At this stage we prefer to widen and enriching the scope of the empirical analysis and to focus on the identification of the relevant interpretive frame-work. Endogeneity analysis and instrumental variable estimation is postponed to the introduction of a simpler and more tractable model since, in the present context, it would be too cumbersome. Instruments can be drawn from different sources, including information concerning the organizations in which the sampled workers are employed, for example the geographical location, as well as secondary data sources on socio-economic development and social capital at provincial and regional levels.

[11] *"Indagine sulle Cooperative Sociali in Italia"* (Survey on Italian Social Cooperatives).

Trento. The SISC (2007) survey encloses a large set of questions from which we have selected items addressing behavioural attitudes, perception of governance processes as well as satisfaction with creative work environments. The items identified show a high degree of internal consistency.

The initial sample was extracted from the ISTAT[12] 2003 census on social cooperatives, which recorded 6,168 active cooperatives (with at least one employee) at the national level. Representativeness at the national level was guaranteed by stratification on the basis of three parameters: typology of cooperative (Type A and Type B), geographic representativeness by province (Italy counts 20 regions and 103 provinces); and size (number of employees). The study started from an initial sample of 411 organizations that are representative of the universe of social cooperatives at the national level, as stratified in terms of typology (A and B), geographical location at the provincial level and dimension. The final sample is made of 320 organizations comprising 4134 salaried workers.[13]

From an overview of socioeconomic features we know that we are looking at workers in their 30s, mainly females (74 per cent), holding a permanent job position (80 per cent). Education is medium-high in 69 per cent of cases (college or university). The hourly wage is Euros 6.6 on average and tenure is nearly 6 years on average. Job tasks are mainly associated with dealing with clients (56 per cent) or multiple tasks (16.6 per cent). As far as the organizational aspects are concerned, the average firm size is 33 salaried employees, 78 per cent are type A and 22 per cent type B cooperatives. 62 per cent are located in the North, 22 per cent in the Centre, and 16 per cent in the South. Finally, about three fourth of employed workers are members of their organization and have the formal right to elect the board of directors and to approve the annual balance sheet.

ANALYSIS

[12] Italian National Agency for Statistics.

[13] The SISC survey is composed by four different questionnaires concerning respectively paid and volunteer workers, cooperatives, and managers. In our analysis we primarily use salaried-workers data. We also rely on some questions enclosed in the questionnaire delivered to cooperatives, for example concerning the sector of operation, dimension, and the typology of services provided. The rate of individual non-responses for paid workers is extremely low since 85% of involved workers answered on average 90% of the 87 questions (56 single choice questions and 31 multiple choice questions).

The econometric model relates workers self-assessment of individual motivations and organizational characteristics associated with inclusion on the one hand, and individual satisfaction for the immaterial aspects of work. Before running the estimates, we reduce the wide array of items by means of Categorical Principal Component Analysis (CatPCA) and Exploratory Factor Analysis (EFA). First, we quantify the ordinal categories by means of CatPCA (Michailidis & de Leeuw, 1998; Meulman, Van der Kooij & Heiser, 2004). We do so for all the Likert items. In particular, we proceed by performing a separate CatPCA analysis for items of motivations, involvement, procedural fairness, relationship with managers, teamwork, on-the-job autonomy and workload pressure. We then perform an exploratory factor analysis (EFA) on the transformed variables for each group of items in order to reduce the number of relevant dimensions. With the exception of motivations for which two factors are extracted, all other EFA extract one unique factor for each group, and therefore factor loadings are not rotated. Finally, factor scores are used in a latent variable ordered logit model which estimates structural parameters.

The econometric analysis is implemented in a cross section environment, where items of satisfaction are the response variables. The explanatory variables are: 1) the factor scores for the following organizational dimensions: autonomy, teamwork, inclusion, procedural fairness, relationships with superiors; 2) single items measuring autonomous innovation and personal growth, learning, workload pressure, competences, 3) the factor scores for ex-ante individual motivations; 4) single items measuring formal membership 5) single items measuring demographic and contextual controls. Odds ratios, z-statistics and other summary statistics are displayed in Table 6.[14] The reduced form for this model is Equation (1):

$$S_i = \alpha + \beta_j Involv_{ji} + \beta_h Learn_{hi} + \beta_k Member_{ki} + \beta_m Mot_{mi} + \beta_n Context_{ni} + \beta_p Socio_{pi} + \beta_q Org_{qi} + \varepsilon_i \quad (1)$$

Where S represents the outcome variable, i.e. the four items of satisfaction. $Involv_j$ is the jx1 vector including the factor scores for involvement, procedural fairness, relations with superiors, teamwork, autonomy, and workload pressure, with j=1, … 7. $Learn_h$ (h=1, … 3) includes the

[14] We include the hourly wage and the presence of other individual monetary incentives among controls (Table A2), even if we are aware of the dangers of endogeneity bias linked. In our results, monetary outcomes appear to increase immaterial and intrinsic job satisfaction. This can be true if they are perceived as a form of recognition by the organization. On the other hand, more satisfied workers can be more productive and, overtime, end up being awarded higher wages (Becchetti, Castriota & Tortia, 2009). We do not enquire the endogeneity of the wage-satisfaction nexus, but we evidence its statistical significance in the multivariate analysis.

variables concerning (the absence of) professional growth, training, and the degree of competencies required by the cooperative; $Member_k$ (k=1, 2) represents the formal dimensions of inclusion.[15] Mot_m (m=1, … 5) includes the factor scores for ex-ante motivations towards work and choice of organization, whereas for extrinsic motivations we use the original items, with. $Context_n$ (n=1, … 2) includes the Stiglitz index identifying socio-economic development, and the logarithm of provincial annual income. $Socio_p$ (p=1, … 8) includes the socio-demographic features of the workforce; and Org_q (q=1, … 2) includes organizational controls.[16] We allow for standard errors that are robust to heteroskedasticity of the error term and we cluster standard errors at the organization level in order to depurate estimates from the effect of intra-class correlation.

Discussion

Table 6 reports ordered logit estimates for the four selected items of satisfaction as regressed against organizational features, individual motivations and control variables. All the main results are summarized in Table 8.

Insert Table 6 about here

The Organizational Determinants of Creativity-Based Accomplishment. The most relevant determinant of creativity-related accomplishment is found in the organization of teamwork activity, uncovering a crucial relational and collective dimension in the setting up of creative work environments and running counter the popular wisdom of creativity understood as a purely

[15] We did not enclose in the analysis the Likert item "Intensity of members' participation" (Appendix, Table A2) because it is likely to suffer from severe endogeneity bias as a determinant of worker satisfaction. Indeed, at the substantive level, the intensity of members participation is rather to be considered the outcome more than one of the determinants of satisfaction. Differently, however, organizational processes can be hypothesized to impact on satisfaction.

[16] In the ordered logit estimates in Table 6 the dependent variable can be derived from the logit of the probability of obtaining a specific score for that variable (or from the natural logarithm of the odds for that same score). The coefficients β_j is interpreted instead as the additive effect on the log of the odds for a unit change in the *j* explanatory variable, or as the logarithm of the odds ratios of having a specific explanatory variable increased by one unit. Some interpretative confusion can be caused by the fact that the explanatory variables are continuous, while the outcome variables are ordered (Zuccaro, 2007). Keeping in mind that we are dealing with latent variables extracted by means of factor analysis, we simply interpret our results as the impact in terms of odds ratios of continuous regressors representing organizational processes on ordered outcomes representing worker satisfaction.

individual potential. In more general terms, in order to give a more complete explanation of impacts on satisfaction for creativity we need to look at organizational dimensions with notable pragmatic and relational connotations, mainly related with the quality of processes and results in teamwork, but also with autonomy in organizing work, individual competences, and support from managers. These organizational dimensions show a strong impact not only on creativity related wellbeing, but also on the other non-material aspects of satisfaction, while their impact on job satisfaction appears much weaker or absent. Also, workload pressure appears to have positive explanatory power on satisfaction for creativity, while it weakly reduces satisfaction with the job as a whole and, not-significantly, with the other components on non-material satisfaction. This result, together with the high significance level of required competencies and of (the absence of) professional growth, confirms that creative work environments represent the outcome of complex organizational processes where high productivity is the by-product of accomplished motivations and self-fulfillment. Coherently, interactions between variables show that the impact of teamwork on creativity-related accomplishment is further reinforced by the presence of intrinsically motivated individuals (Table 7).[17]

Satisfaction with creativity is also positively related with organizations encouraging personal growth by giving autonomy in the introduction of innovations. It is, on the other hand, reduced by poor initiatives towards professional growth and by meagre individual participation in training courses (Table 6). Looking at interactions, a trade off is observed between individual competence and good relationships with mangers.[18] Results suggest that in order to improve satisfaction for

[17] The analysis of interaction terms was set up by focusing on the most relevant determinants of satisfaction for creativity. Six regressors were identified: teamwork, autonomy in innovation, involvement, relationships with superiors, required competencies and motivations ex-ante. The selection was based on the substantive relevance and statistical significance of the regressors, economizing on the number of possible combinations between the chosen variables. Autonomy in innovation was preferred to autonomy because the introduction of the latter did not lead to any significant estimated parameter. Relationship with superiors was preferred to procedural fairness since, while the two regressors shows a widely coextensive impact on satisfaction, the former appears slightly more relevant than the latter. The resulting 15 interactions correspond to the number of combinations of 6 elements taken 2 at a time without repetitions. Socio-economic controls were added to the six regressors and their interactions, while all the other variables listed in Table 6 were excluded.

[18] The 5 interactions including the degree of required competencies show an extremely high degree of multi-collinearity with all the other five organizational dimensions. All of the 5 correlation coefficients are equal or higher than 0.93 [complete results are available upon request from the authors]. In substantive terms, the existence of multicollinearity is taken to mean that workers perceive a high degree of required

creativity there exist two alternative channels, where the level of skills is a substitute, rather than a complement, of good relationships with managers (Table 7).

These findings support the view for which creativity is a form of expression that is conveyed both by:

a) The actual design and "creation" of processes and outputs which involve individual specific competences, paired by a mix of autonomous, independent action, and deliberation with others. In particular, and consistently with the literature, the team emerges as the space where the worker, by actualizing his/her motivational drives, expresses his/her intuitions, explores and enhances them through interaction with others, whilst mutually benefiting from complementary experiences and skills to support achievement. The odds ratio of a unitary increase in satisfaction with creativity are increased by 63% by a unitary increase in quality teamwork (Table 6). Creativity-wise accomplishment is also promoted when teamwork occurs amongst highly motivated individuals (Table 7). In this first interpretation, the creative potential of the work environment emerges as the outcome of task oriented interactions in teams and of on-the-job autonomy. Perceived workload pressure contributes to increase the perception of a creativity enhancing environment.

b) Organizations that favor substantive inclusion i.e. through the promotion of involvement in the definition of organizational objectives and values and through the implementation of fair procedures and interactions. This second perspective highlights the importance of an empowering and fair work environment, quite independently of the specific features of work tasks.

Insert Table 7 about here

Intrinsic and Socially Oriented Preferences. Ex-ante motivations in the survey reflect both social preferences as well as personal aspirations towards fulfillment, including the search for

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competencies *whenever* they are involved in the above mentioned organizational dimensions. As for the estimated models, only 11 out of 15 total interactions among the six most relevant regressors were estimated (Table 7). The interaction between required competencies and good relationship with managers was left in the estimated equations, the problem of multicollinearity notwithstanding. The reason is that it evidences a significant trade-off between these two aspects when considering their conjunct impact on satisfaction for creativity. We did this after carefully controlling for the sensitivity of the estimated parameters to the high noise introduced by this specific interaction term.

novelty and good relationships at work. The two groups of items appeared in the same factor. In the context of social cooperatives they are, therefore, complementary and not substitutes.

We observe a high level of statistical significance of impacts, with a unit increase in the stated degree of ex-ante motivations increasing the odds of being more satisfied with creativity by a factor of 1.33. Conversely, extrinsically motivated workers who had no other job opportunities are less satisfied regarding all measures of fulfillment as well as, and especially, with respect to overall job satisfaction. They attain a lower degree of autonomy and personal fulfillment, and perceive a less creative work environment since the odds or being more satisfied with creativity are decreased in their case by a factor equal to 0.85.

These results point to the existence of a relationship between individual needs and aspirations on the one hand (as reflected by the motivational factor), and creativity-related accomplishment on the other, which is not necessarily mediated by the organizational context, even if teamwork clearly appears as the organizational dimension that is best able to empower and actualize intrinsic motivations.

Coexistence with other forms of fulfillment. We compare the effects of the determinants of satisfaction with creativity on related accomplishment measures, namely self-fulfillment more generally, and satisfaction with autonomy.[19] Teamwork, individual competences and ex-ante intrinsic motivations turn out to be the most specific measures of creativity-related accomplishment as they show significant odds ratio above the level of other items of fulfillment. Also the trade-off between individual competence and relations with superiors seems to exclusively define creativity-related satisfaction. However, direct measures of substantive inclusion and fairness, although relevant, are less specific for creativity, as they score higher when related to fulfillment more generally, and autonomy-related accomplishment.

Also, self-fulfillment presents two exclusive interactions. The first one shows a positive interaction between the quality of relations with superiors and ex-ante intrinsic motivations, which suggests that the impacts of motivations on self-realization are amplified by a positive attitude of management and vice versa. The second interaction is a negative one. The odds ratio of

[19] When considering the determinants of on-the-job autonomy, the regressors representing the input variables on autonomy (in the accomplishment of tasks and in innovation) assume, as expected, paramount importance. Though this specific result can be considered almost tautological and redundant, we added these two regressors anyways, in order not to have the other estimated coefficients incurring in the omitted variable bias. Coherently, we exclude these two effects from Table 8.

self-fulfillment is reduced when teamwork and autonomy in innovation interact. The trade off can be seen as the opposition of two antagonistic forces (the use of independent judgment against collective deliberation) which when taken in isolation positively affect accomplishment, but when coexisting decrease self-fulfillment, overall.

Insert Table 8 about here

When it comes to overall job satisfaction, good relationships with superiors, together with procedural fairness are reinstated as the most relevant determinants of on-the job wellbeing, both in material and non-material terms (Tortia, 2008; Helliwell & Huang, 2010). On the other hand, contrary to what happens with self-accomplishment, substantive involvement in decision making plays no role. As expected, the strength of intrinsic motivations play a positive and significant role, while the absence of outside employment opportunities exerts a strong negative impact. The intensive use of monetary incentives by the organization increases overall job satisfaction. Whilst bearing some significance for overall fulfillment, monetary motivations do not show any other significant link with satisfaction with creativity (Table 6).

Formal Governance. Measures of membership intensity at organizational level, as well as the membership status associated with each worker hold no significance for accomplishment. Formal membership does not seem to have any impacts on self-fulfillment, and in particular on how much workers perceive themselves as satisfied with creativity or with autonomy. Overall job satisfaction is not affected either (Table 6).[20]

Demographic and Contextual Controls. Neither organizational controls, nor demographic controls bear any significance for satisfaction with creativity. However, although not linked with self-accomplishment, socio-demographic controls such as age and gender (female) show a positive relation with overall job satisfaction, whilst highly educated workers are less satisfied (Table 6). Size and sector of the organization, conversely, are irrelevant with respect to all aspects of satisfaction considered.

[20] The analysis of the formal governance and contractual structure should be deepened in various directions because, for example, the formal status of workers as members of the organization can interact in important ways with the features of labor contracts. At the present stage, a more in depth discussion of formal institutional aspects is beyond the scope of our analysis.

Finally, we take into consideration various contextual variables. Although to a little extent, macro socio-economic development, as measured by the Stiglitz index, appears to favor all the items of satisfaction considered. This suggests that, for socially oriented workers, higher levels of socio-economic development support self-realization at the individual level, including aspects related to creativity and autonomy. The result consistently brings together individuals' concern for the well-being of fellow citizens and socially oriented intrinsic motivations at work. When we isolate income, however, we observe a negative effect on overall job satisfaction (Table 6). This result is consistent with previous findings on individual income aspirations, reflecting the fact that material satisfaction is a positional rather than an absolute phenomenon (Frey & Stutzer, 2002; Ferrer-i-Carbonell, 2005).

CONCLUSIONS

In this paper we have positioned creativity in the context of organizations, highlighting its main relations with individual sense of accomplishment. Specifically, the empirical model addresses interconnections between individual motivations, contextual characteristics and creativity-related accomplishment.

The realization of creativity-related aspirations within the organization coexists with accomplishment for autonomy and with overall fulfillment. Overall, our data shows a consistency of the determinants impacting upon these three items of satisfaction. When organizational processes support involvement (as exemplified by measures of inclusion in objectives definition, procedural fairness, quality interaction with managers) employees sense of fulfillment increases, and so do in particular fulfillment related to autonomy and creativity.

However, satisfaction connected directly with creativity is supported, in particular, by spaces where involvement and participation are exemplified in teamwork-oriented action, including the quality of processes, relations and outputs within the team. The mastering of high competences is also preferentially related with creativity-related accomplishment and so does the autonomy enjoyed by workers in introducing innovations on the organization of work and delivery of services (more general autonomy conceded on the organization of day by day tasks is also significant, although more prominent in defining satisfaction for overall self-fulfillment).

Amongst individual characteristics, intrinsic social and personal motivations prior to entering the organization emerge as specific determinants of fulfillment in general, but in particular with

respect to creativity. Intrinsically motivated individuals, regardless of organizational stimuli, are more satisfied creativity-wise. Ex-ante intrinsic motivations also amplify the effects of teamwork.

Our results cannot be readily generalized since we take into consideration one organizational form (the social cooperative) and one sector (social services). However, further analysis on the impact of organizational features and individual motivations on accomplishment for creativity could possibly benefit from this methodology. At the very least, this aims at being an attempt assessing the organizational capability to provide a multiplicity of spaces and modalities within which individuals can express their creativity and, therefore, be work-wise satisfied.

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APPENDIX A.

Descriptive Statistics and Correlation Coefficient Among Regressors

TABLE A1

Items of Satisfaction *(1 to 7 scale)*

	No. cases	Average	Standard deviation	Median	Mode
The work as a whole	3989	5.46	1.33	6	6
Variety and creativity of work	3991	5.20	1.67	5	6
Autonomy and independence of work	3986	5.07	1.63	5	6
Personal fulfillment	3947	4.92	1.49	5	6

Source: Authors' calculations on SISC 2007 *(Survey on Italian Social Cooperatives 2006).*

TABLE A2

Socio-Demographic Features of the Workforce

	No. of observations	Min	Max	Average or Frequency ***	Standard deviation	Coefficient of variation
			Socio-demographic features			
Age	4134	17	73	37.41	9.01	0.24
Gender (female)*	4134			74.2	0.44	0.25
Secondary education*	4134			51.6	0.50	0.97
University degree*	4134			17.5	0.38	2.17
			Contractual features			
Hourly wage	4134	1.357	60.930	6.57	2.44	0.37
Monetary incentives*	4134			5.5	0.23	4.14
Tenure (years)	4134	0	35	5.7	5.47	0.96
Part-time position*	4134			31.95	0.47	1.46
Permanent*	4134			80.7	0.39	0.22
			Job tasks			
Relationship with clients*	4134			55.9	0.50	0.89
Coordination*	4134			5.7	0.23	4.07
Manual worker*	4134			9.2	0.29	3.15
Multiple tasks*	4134			16.6	0.37	2.24
			Inclusion			
Worker-members	4134	0%	100%	75.6	0.23	0.31
Intensity of member's participation**	3124	1	5	3.96	1.23	0.21

Source: Authors' calculations on SISC 2007 *(Survey on Italian Social Cooperatives 2006)*.
*Dummy variable.
**Likert scale.
*** Average data for continuous numeric variables; frequency for dummy variables.

TABLE A3

Motivational Items before Entering the Organization

	No. cases	Average	Standard deviation	Median	Mode
Attitudes toward work before entering the firm (Scale 1 to 7)					
Interest in social problems	3913	5.33	1.67	6	7
Find a job useful for other people	3865	5.31	1.68	6	7
Achieve personal fulfillment on the job	3877	5.68	1.43	6	7
Driven by curiosity and open to novelty	3846	5.49	1.48	6	7
Importance of interpersonal relations	3836	5.65	1.39	6	7
Visibility in the community	3793	3.64	1.90	4	4
Choice of the organization: ex-ante values (Scale 1 to 7)					
Sharing of ideals and values of the firm	3883	4.66	1.73	5	6
Desire to participate in decision making	3857	4.01	1.84	4	4
Sharing of projects and common culture	3877	4.46	1.89	5	6
Choice of the organization: ex-ante extrinsic motivations (Scale 1 to 7)					
No other jobs available	3900	3.20	2.12	3	1
Wage and other monetary incentives	3852	3.67	1.84	4	4
Never volunteered in the past*	4134	0.42	0.43		

Source: Authors' calculations on SISC 2007 *(Survey on Italian Social Cooperatives 2006).*

* Dummy variable.

TABLE A4

Organizational Features Supporting Choice-Making and Use of Creativity

	No. cases	Not applicable	Average	Standard deviation	Coefficient of variation	Median	Mode
Are the following aspects of involvement relevant in your organization? (Scale 1 to 5)							
Quality of interpersonal relations	3785	0	3.27	1.09	0.33	3	3
Involvement in the mission	3835	0	3.13	1.24	0.40	3	3
Involvement in decision making	3846	0	2.88	1.26	0.44	3	3
Procedural fairness: Your cooperative…. (Scale 1 to 7)							
Gives you advice and effective directions	3992	0	5.29	1.63	0.31	6	7
Gathers appropriate information on workers' performance	3939	0	5.10	1.67	0.33	6	7
Is impartial with all workers	3955	0	5.10	1.90	0.37	6	7
Defines clear and shared objectives	3946	0	5.23	1.65	0.32	6	7
Keeps word	3938	0	5.67	1.55	0.27	6	7
Relationships with managers: Your managers give you…. (Scale 1 to 7)							
Advice and respect	4024	138	6.15	1.24	0.20	7	7
Listening	3937	138	5.56	1.50	0.27	6	7
Advice and direction	3939	140	5.57	1.50	0.27	6	7
Attention to the quality of your results	3944	138	5.78	1.38	0.24	6	7
Teamwork: what are the most relevant aspects in your team? (Scale 1 to 7)							
Cooperation	3907	828	5.49	1.56	0.28	5	7
Job rotation	3844	828	4.86	2.08	0.43	4	7
Support by superiors	3861	828	5.72	1.48	0.26	6	7
Quality of result is primary objective	3873	828	5.85	1.46	0.25	6	7
Widespread feelings of trust and respect	3873	828	5.55	1.43	0.26	5	7
Sharing of knowledge and experience	3870	828	5.61	1.40	0.25	5	7
Workload pressure, (Scale 1 to 7)							
Accomplishment of different activities at the same time	4134	0	4.92	1.90	0.39	5	7
High degree of responsibility toward users	4134	0	5.17	2.04	0.39	6	7
Hard to achieve targets	4134	0	4.32	1.85	0.43	4	4
High pace of work	4134	0	4.62	1.80	0.39	5	4
Learning							
Required competencies **	4134	0	4.72	1.69	0.36	5	4
No personal growth *	4106	0	0.11	0.31	2.83		
No training *	4096	0	0.25	0.43	1.75		
To what extent are you autonomous…							
In organizing job tasks	4017	0	4.70	1.96	0.42	5	7
In problem solving	3949	0	4.25	1.95	0.46	4	4
Autonomy in innovation **	4106	0	0.42	0.48	1.18		

Source: Authors' calculations on SISC 2007 *(Survey on Italian Social Cooperatives 2006)*
*Dummy variable. ** Scale 1 to 7.

TABLE A5

Correlation Coefficients among Organizational Determinants of Satisfaction

	Team [a]	Autonomy [a]	Involvement [a]	Procedural fairness [a]	Relationships with superiors [a]	Workload [a]	Competencies required [b]	No professional growth [c]	No training [c]	Motivations ex-ante [a]	Choice organi-zation [a]	No other work opportunities [b]	Wage and other monetary in-centives [b]	Never volun-teered in the past [c]
Team [a]	1.00													
Autonomy [a]	0.14	1.00												
Involvement [a]	0.25	0.20	1.00											
Procedural fairness [a]	0.38	0.16	0.40	1.00										
Relationships with superi-ors [a]	0.49	0.16	0.39	0.53	1.00									
Workload [a]	0.02	0.03	0.13	-0.11	0.01	1.00								
Competencies required [b]	0.12	0.13	0.22	0.03	0.11	0.52	1.00							
No professional growth [c]	-0.19	-0.11	-0.27	-0.25	-0.33	-0.11	-0.15	1.00						
No training [c]	-0.06	0.01	-0.12	0.00	-0.06	-0.21	-0.19	0.25	1.00					
Motivations ex-ante [a]	0.30	0.06	0.15	0.14	0.20	0.15	0.20	-0.08	-0.06	1.00				
Choice organization [a]	0.26	0.13	0.42	0.33	0.29	0.10	0.17	-0.14	-0.03	0.41	1.00			
No other work opportunities [b]	-0.06	-0.02	-0.07	0.04	-0.04	-0.12	-0.14	0.06	0.12	-0.14	-0.07	1.00		
Wage and other monetary incentives [b]	0.02	0.05	0.10	0.19	0.05	-0.06	-0.01	-0.02	0.08	0.01	0.21	0.25	1.00	
Never volunteered in the past [c]	-0.03	-0.03	-0.07	0.08	0.00	-0.14	-0.15	0.06	0.17	-0.21	-0.09	0.17	0.10	1.00

Notes: Variable type: [a] continuous standardized (factor); [b] Ordinal; [c] Dummy; [d] Continuous. *Source:* Authors' calculations on SISC 2007 *(Survey on Italian Social Cooperatives 2006).*

TABLE 1

Measures of Satisfaction

Scale	Number of items	Description	Items
		MEASURES OF SATISFACTION	
Satisfaction for variety and creativity of the job	1	A subjective self-assessment measuring the match between the desired variety and creativity of job activities and its realization in the organization.	Scale 1 to 7
Satisfaction for autonomy	1	Autonomy as a basic psychological need (Deci and Ryan 2000). We expect its satisfaction to go in parallel with satisfaction for variety and creativity.	Scale 1 to 7
Satisfaction for self-fulfillment	1	Fulfillment may take various forms. It encompasses psychological needs, including creativity. It is a subjective self-assessment measuring the match between the need for actualisation of one's potential and its realization.	Scale 1 to 7
Satisfaction for the job as a whole	1	A discriminant to assess whether our input variables are measuring aspects related to satisfaction for creativity rather than a more comprehensive perception of occupational characteristics and work environment.	Scale 1 to 7

TABLE 2

Measures of Substantial Organizational Characteristics

Scale	Nr. of items	Description SUBSTANTIAL ORGANIZATIONAL FEATURES	Items Scale 1 to 7 (unless differently specified)
Autonomy	Factor (2 items)	A subjective measure of the degree of autonomy and self-determination perceived by individual workers when carrying out their jobs.	To what extent are you autonomous: a) in organising job tasks, b) in problem solving.
Autonomy in innovation	1	An assessment of the space the organization gives to each worker to introduce novelty	The cooperative supports personal growth by giving autonomy in the development of innovations related to work organization and services (Yes/No)
Teamwork	Factor (6 items)	A measure considering the quality of teamwork. This is associated with an environment where co-workers communicate, share knowledge, help and support each other, building up trust. Also support by the management and commitment to quality results may reinforce virtuous group work dynamics.	What are the most relevant aspects in your team? a) cooperation, b) job rotation, c) support by the management, d) the quality of results is the primary objective, d) widespread feelings of trust and respect, e) sharing of knowledge and experience.
Inclusion	Factor (3 items)	An environment where individuals are involved in the definition of aims and in decision-making, and where people can share their views supported by good inter-personal relationship.	To what extent are these aspects important in your organizations? a) Development of interpersonal relations; b) Involvement in the mission, c) Involvement in decision making.
Procedural fairness	Factor (5 items)	Procedures are impartial and transparent, giving workers reasonable guarantees concerning fair outcomes.	The cooperative is a) impartial with all workers, b) defines clear and shared objectives, c) gives advice and effective direction, d) gathers appropriate information on employees' performance, e) keeps word

Relationships with superiors	Factor (4 items)	This measures an environment where managers give appropriate advice, treat people fairly and with respect, listen to employees' needs and ideas, value performance and individual contributions.	Your managers give you: a) advice and respect, b) listening, c) advice and direction, d) attention to the quality of results
Competence	1	A measure of whether job tasks require high skills	Your job usually requires… high-level competences
Learning	3	An objective measure of the extent to which training and personal development more broadly are part of the organizational culture.	Did you enrol in training courses over the last three years? Yes/No The cooperative supports personal development Yes/No
Workload pressure	4	A measure of the effects of time pressures, the difficulty of objectives, the level of responsibility towards users, or the fragmentation of attention among very different activities.	Your job usually requires: a) temporary involvement in very different activities; b) a high degree of responsibility for users; c)reaching difficult objectives; d) working at a fast pace.

TABLE 3

Measures of Ex-ante Individual Motivations

Scale	Number of items	Description	Items
		INDIVIDUAL MOTIVATIONS PRIOR TO JOINING THE FIRM	Scale 1 to 7
Ex-ante social and personal intrinsic motivations	Factor (5 items)	This subjective measure addresses whether satisfaction for creativity comes from intrinsic attitudes towards work prior to entering the firm, rather than being affected by organizational characteristics. This measure emerges from factor analysis. The two groups of items on social and personal intrinsic motivations appear in the same factor. In the context of social cooperatives, they are, therefore, complementary and not substitutes.	Social: Interest in social problems; Find a job useful for other people. Personal: Achieve personal fulfillment on the job; Driven by curiosity and open to novelty; Importance of interpersonal relations.
Ex-ante compatibility of values	Factor (3 items)	This subjective measure controls whether satisfaction for creativity relates to ex-ante alignment of individual and organizational values, rather than to specific organizational characteristics. Again, this is measured on values matured prior to the specific work experience.	Sharing of ideals and values of the firm; Desire to participate in decision making; Sharing of projects and common culture.
Ex-ante extrinsic motivations	2 items	This subjective measure addresses whether the initial choice of organization is grounded on extrinsic motivations, as related to salary or contingent circumstances. It controls whether satisfaction for creativity is affected by pre-existing extrinsic motives rather than by organizational dimensions.	No other jobs available; Wage and other monetary incentives
Social preferences	1	This is an *objective* measure that gives insight about the social preferences of the individual, as well as about any previous (learning) experience in the third sector. It controls whether satisfaction for creativity is affected by pre-existing intrinsic motives or experience rather than by organizational dimensions.	Never volunteered in the past

TABLE 4

Measures of Formal Organizational Characteristics

Scale	Number of items	Description	Items
		FORMAL ORGANIZATIONAL FEATURES	
Formal inclusion	2	Satisfaction for job-related creativity may be affected by allocation of control rights, including rights to decision-making. This is an objective measure of formal rights to participation within the social cooperative. Two factors are considered, the first one addressing the members to workers' ratio, the second one considering the intensity of members' participation.	Nr. of workers/Nr. of members. Attendance to members' meetings.
Type of organization	2	These are objective measures to control for the effects of size and sector. Type A social cooperatives deliver social services, whilst Type B address employability of disadvantaged individuals. Most Type B social cooperatives operate in traditional industrial sectors.	Size (number of employees). Firm type (A/B social cooperatives).

TABLE 5

Individual Controls

Scale	Number of items	Description	Items
		INDIVIDUAL CONTROLS	
Socio-demographics	4	These are standard controls assessing whether socio-demographic characteristics of respondents, rather than organizational features, impact on satisfaction for creativity.	Age, gender, education
Contractual features	5	This is an objective measure that addresses whether salary levels, economic incentives, and other contractual features impact on satisfaction for creativity, rather than organizational features.	Hourly wage, monetary incentives, tenure (years), part-time position, permanent
Job tasks	4	Satisfaction for creativity can be directly related to the nature of the occupation and degree of specialization of the employee.	Manual tasks, multiple tasks, coordination work, relationship with clients

TABLE 6

Determinants of Satisfaction Items

Ordered logit estimates	Satisfaction with variety and creativity in the job			Satisfaction with on-the-job autonomy and independence			Satisfaction with self-fulfillment			Overall job satisfaction		
	Odds Ratio	Rob. Std. Err.	Z - stats	Odds Ratio	Rob. Std. Err.	Z - stats	Odds Ratio	Rob. Std. Err.	Z - stats	Odds Ratio	Rob. Std. Err.	Z - stats
Organizational processes												
Team [a]	1.63***	0.08	9.83	1.32***	0.06	6.19	1.38***	0.07	6.74	1.12*	0.05	2.47
Autonomy [a]	1.23***	0.07	3.89	2.84***	0.19	15.29	1.31***	0.06	5.44	1.07	0.05	1.53
Autonomy in innovation [c]	1.29**	0.11	3.09	1.74***	0.13	7.19	1.27**	0.10	3.14	1.08	0.08	1.03
Involvement [a]	1.14**	0.05	2.75	1.22***	0.06	3.74	1.25***	0.06	4.36	1.08	0.06	1.53
Procedural fairness [a]	1.20**	0.07	3.12	1.31***	0.07	4.79	1.26***	0.07	4.01	1.33***	0.08	5.05
Relationships with superiors [a]	1.22***	0.07	3.82	1.54***	0.08	8.54	1.58***	0.09	7.98	1.35***	0.07	5.55
Workload [a]	1.16*	0.07	2.44	0.92	0.05	-1.47	0.95	0.06	-0.84	0.91▪	0.05	-1.90
Learning												
Competencies required [b]	1.17***	0.04	5.26	1.03	0.03	1.07	1.08*	0.03	2.51	1.01	0.03	0.21
No professional growth [c]	0.64**	0.10	-2.83	0.80	0.11	-1.61	0.44***	0.07	-5.58	0.90	0.14	-0.70
No training [c]	0.82▪	0.08	-1.95	0.85▪	0.08	-1.81	0.87	0.09	-1.36	1.16	0.12	1.45
Motivational aspects												
Motivations ex-ante [a]	1.33***	0.07	5.15	1.12▪	0.07	1.88	1.15*	0.07	2.33	1.17**	0.05	3.46
Choice organization [a]	0.98	0.06	-0.30	0.92	0.05	-1.36	1.08	0.06	1.39	0.99	0.05	-0.26
No other work opportunities [b]	0.95**	0.02	-2.95	0.95**	0.02	-2.96	0.94***	0.02	-3.60	0.85***	0.02	-8.01
Wage and other monetary incentives [b]	1.00	0.02	0.04	1.02	0.02	1.03	1.05*	0.02	2.23	1.13***	0.02	5.80
Never volunteered in the past [c]	0.97	0.07	-0.48	0.94	0.06	-0.95	0.89	0.07	-1.63	1.01	0.07	0.17
Formal involvement (membership)												
Ratio worker-member/employees [d]	0.84	0.19	-0.75	1.09	0.24	0.41	1.15	0.25	0.65	0.87	0.17	-0.71
Member [c]	1.15	0.10	1.62	0.93	0.09	-0.75	0.87	0.08	-1.52	1.13	0.11	1.33
Socio-demographic controls												
Age [d]	0.99	0.00	-1.40	1.00	0.00	-0.37	1.00	0.00	0.34	1.02***	0.01	4.25
Gender [c]	1.01	0.08	0.11	0.94	0.08	-0.77	0.92	0.07	-1.12	1.24**	0.10	2.72
Education: university degree [c]	0.84▪	0.08	-1.88	1.12	0.10	1.26	0.84▪	0.07	-1.92	0.70***	0.07	-3.84
Tenure [d]	1.00	0.01	0.05	1.01	0.01	1.40	1.00	0.01	-0.82	0.99	0.01	-1.55
Open-end contract [c]	0.87	0.08	-1.42	1.09	0.10	0.93	0.92	0.08	-0.99	1.15	0.11	1.47
Part-time [c]	1.18▪	0.10	1.96	1.12	0.10	1.34	0.97	0.08	-0.39	1.06	0.09	0.68
Hourly wage [d]	0.99	0.02	-0.93	1.04▪	0.02	1.84	1.04*	0.02	2.59	0.99	0.01	-1.45
Individual monetary incentives [c]	1.02	0.15	0.10	1.27▪	0.18	1.68	1.11	0.14	0.86	0.95	0.14	-0.31

Organizational variables												
Log size of the organization [d]	0.99	0.04	-0.19	1.03	0.04	0.94	1.02	0.04	0.40	1.04	0.03	1.32
Sector of operation (hard to employ adults) [c]	1.08	0.13	0.63	0.98	0.11	-0.23	1.12	0.13	0.98	1.04	0.12	0.37
Socio-economic context												
Socio-economic development (Stiglitz) [d]	1.00**	0.00	2.38	1.00**	0.00	2.75	1.01**	0.00	3.45	1.00▪	0.00	1.85
Log provincial income [d]	1.03	0.03	1.22	0.97	0.03	-0.93	1.01	0.03	0.24	0.92*	0.03	-2.49
No. of Observations		3133			3133			3133			3133	
No. of Clusters		313			313			313			313	
Wald Chi2 (28):		801.40			937.99			892.16			410.43	
Log-pseudolikelihood		-4688.6			-4554.9			-4940.7			-4562.4	
Pseudo R2		0.0959			0.1476			0.1081			0.0616	

Notes:

Variable type: [a] continuous standardized (factor); [b] Ordinal; [c] Dummy; [d] Continuous. *Source:* Authors' calculations on SISC 2007 *(Survey on Italian Social Cooperatives 2006).*

Odds Ratios (OR) statically significant at level: ▪10%; * 5%; ** 1%; *** 1 ‰.

TABLE 7

Analysis of Complementarities Between Different Organizational Processes and Motivational Drives

Ordered logit estimates	Satisfaction with variety and creativity in the job			Satisfaction with on-the-job autonomy and independence			Satisfaction with self-fulfillment			Overall job satisfaction		
	Odds Ratio	Rob. Std. Err.	Z - stats	Odds Ratio	Rob. Std. Err.	Z - stats	Odds Ratio	Rob. Std. Err.	Z - stats	Odds Ratio	Rob. Std. Err.	Z - stats
Processes and motivations												
Team [a]	1.70***	0.11	7.96	1.36***	0.09	4.60	1.58***	0.11	6.40	1.21**	0.08	3.03
Autonomy in innovation [a]	1.48***	0.12	4.84	2.14***	0.16	10.00	1.44***	0.11	4.60	1.06	0.08	0.84
Relationships with superiors [a]	1.95***	0.27	4.92	1.93***	0.29	4.42	1.76***	0.25	3.92	1.78***	0.25	4.11
Involvement [a]	1.20**	0.08	2.82	1.32***	0.08	4.56	1.35***	0.09	4.70	1.10	0.07	1.48
Competencies required [b]	1.24***	0.03	7.65	1.06*	0.03	2.11	1.10***	0.03	3.60	1.00	0.03	-0.04
Motivations ex-ante [a]	1.37***	0.09	4.98	1.15*	0.08	2.12	1.27***	0.09	3.52	1.28***	0.07	4.50
Interactions												
Team*Auton.Innovat. [d]	0.91	0.09	-0.96	1.03	0.11	0.31	0.79*	0.08	-2.33	0.92	0.09	-0.85
Team*Relat.superiors [d]	1.03	0.05	0.57	0.99	0.05	-0.24	0.98	0.05	-0.42	0.96	0.05	-0.87
Team*Involvement [d]	0.94	0.06	-0.99	0.99	0.06	-0.14	0.99	0.05	-0.26	1.01	0.06	0.21
Team*Motivations [d]	1.14*	0.06	2.47	1.04	0.06	0.78	1.10	0.06	1.64	1.10**	0.05	2.10
Auton.Innovat. *Relat.Superiors [d]	1.07	0.11	0.71	1.11	0.12	1.00	1.20▪	0.12	1.78	1.07	0.11	0.63
Auton.Innovat. *Involvement [d]	1.05	0.09	0.52	1.01	0.09	0.16	1.07	0.10	0.73	1.15	0.10	1.63
Auton.Innovat. *Motivat. [d]	0.94	0.08	-0.72	0.89	0.08	-1.34	0.89	0.08	-1.29	0.87▪	0.07	-1.72
Relat.Superiors*Involvement [d]	1.05	0.06	0.90	0.98	0.06	-0.36	0.93	0.06	-1.25	0.97	0.05	-0.68
Relat.Superiors*Motivations [d]	1.00	0.06	0.02	1.08	0.06	1.52	1.15*	0.07	2.43	1.01	0.06	0.17
Involvement*Motivations [d]	0.98	0.05	-0.36	1.05	0.06	0.85	0.99	0.06	-0.20	1.06	0.05	1.15
Relat.Superiors*Competence [d]	0.92**	0.02	-3.08	0.97	0.03	-1.28	0.99	0.03	-0.38	0.96*	0.02	-1.72
Socio-economic controls												
Age [d]	0.99	0.00	-1.51	1.00	0.00	0.77	1.00	0.00	0.38	1.02***	0.01	3.66
Gender [c]	1.00	0.08	0.03	0.90	0.08	-1.11	0.92	0.07	-1.16	1.29**	0.11	3.11
Education: university degree [c]	0.86	0.08	-1.59	1.11	0.10	1.21	0.82*	0.07	-2.36	0.64***	0.06	-4.87
Tenure [d]	1.00	0.01	0.26	1.01	0.01	0.82	1.00	0.01	-0.61	0.99	0.01	-1.16
Open-end contract [c]	0.91	0.08	-1.10	1.04	0.11	0.40	0.93	0.08	-0.80	1.13	0.10	1.48
Part-time [c]	1.18*	0.10	2.00	1.20*	0.10	2.16	1.01	0.08	0.16	1.11	0.09	1.34
Hourly wage [d]	0.99	0.01	-1.05	1.04*	0.02	2.38	1.04*	0.02	2.24	0.99	0.01	-1.26

Individual monetary incentives [c]	1.01	0.15	0.08	1.26▪	0.17	1.67	1.08	0.13	0.61	0.96	0.15	-0.28
No. of Observations		3170			3170			3170			3170	
No. of Clusters		316			316			316			316	
Wald Chi2 (28):		752.68			662.34			683.15			253.03	
Log-pseudolikelihood		-4694.5			-4910.7			-5073.3			-4711.8	
Pseudo R2		0.0885			0.0913			0.0943			0.0434	

Notes:

Variable type: [a] continuous standardized (factor); [b] Ordinal; [c] Dummy; [d] Continuous. *Source:* Authors' calculations on SISC 2007 *(Survey on Italian Social Cooperatives 2006).*

Odds Ratios (OR) statically significant at level: ▪10%; * 5%; ** 1%; *** 1 ‰.

TABLE 8

The Determinants of Creativity-Related Satisfaction and Other Forms of Self-Accomplishment Compared

	Creativity	*Autonomy*	*Self-fulfillment*	*Job satisfaction*
Teamwork	Yes	Yes (lower)	Yes (lower)	Yes (lower)
Competencies required	Yes	No	Yes (lower)	No
Autonomy	Yes	--	Yes (higher)	No
Relationships with superiors	Yes	Yes (higher)	Yes (higher)	Yes (higher)
Autonomy in innovation	Yes	--	Yes (lower)	No
Involvement	Yes	Yes (higher)	Yes (higher)	No
Procedural fairness	Yes	Yes (higher)	Yes (higher)	Yes (higher)
Ex-ante intrinsic motivations	Yes	No	Yes (lower)	Yes (lower)
Interactions				
Team & Motivations	Yes	No	No	Yes (lower)
Team & Autonomous innovation	No	No	Yes (negative)	No
Relations with superiors & Competence	Yes (negative)	No	No	No
Relations with superiors & Motivations	No	No	Yes	No

Effects are positive unless differently specified.

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